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10/619,691

07/16/2003

David M. Krinsky

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10/31/2006

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EXAMINER

TRAN, KHANH C

ART UNIT

PAPER NUMBER

2611

DATE MAILED: 10/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/619,691

Applicant(s)

KRINSKY ET AL.

Examiner

Khanh Tran

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2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1, 3-5, 7-11, 13-15, 17-23, 25-31, 33-39 and 41-42 are rejected under 35 U.S.C. 102(e) as being anticipated by Milbrandt U.S. Patent 6,636,603 B1.

Regarding claim 1, in column 11 lines 25-65, Milbrandt teaches that in some situations, modems 60 and 42 may not establish a connection over the entire frequency spectrum of a subscriber line 16. In these instances where a modem 60 fails to operate over the entire frequency spectrum supported by a subscriber line 16, central office 14 may enter a modem 60 into a diagnostic mode. The foregoing disclosure addresses the claimed limitations "*initiate diagnostic mode trigger that instructs a transmitting modem to forward an initiate diagnostic mode message to a receiving modem*".

In the diagnostic mode, a modem 60 communicates to modem 42 a signal pulse at a known transmit power spectrum density for one or more sub-frequencies within the frequency spectrum over which the modems 60 and 42 may still connect, such as over a sub-frequency in the voice frequency spectrum. The foregoing disclosure addresses

the claimed limitations *"a message determination device that determines a diagnostic link message"*.

Modem 42 at subscriber premises 12 receives the data signal that is communicated by modem 60 and determines subscriber line information 28, such as attenuation information, noise information, received signal power spectrum density, or any other information describing the physical or operating characteristics of subscriber line 16 at the one or more sub-frequencies over which the connection between modem 60 and 42 is established. Modem 42 then extrapolates subscriber line information 28 for all frequencies in the frequency spectrum supported by subscriber line 16 and communicates the determined subscriber line information 28 to central office 14 over any achievable range of sub-frequencies using any suitable communication protocols.

The foregoing disclosure addresses the claimed limitations *"a receiving modem diagnostic device that receives the diagnostic link message and determines the accuracy of the diagnostic link message"*.

Regarding claim 3, in column 11 lines 50-65, Milbrandt teaches if the number of times a modem 60 fails an attempt to communicate with a modem 42 using a first communication protocol exceeds a predetermined threshold, then server 18 initiates the operation of the particular modem 60 using an alternative communication protocol supported by the particular subscriber line 16. In view of that, the known transmit power spectrum density has been retransmitted a number of times.

Regarding claim 4, as recited in claim 1 rejection, modem 60 communicates to modem 42 a signal pulse at a known transmit power spectrum density for one or more sub-frequencies within the frequency spectrum over which the modems 60 and 42 may still connect, such as over a sub-frequency in the voice frequency spectrum.

Regarding claim 5, as recited in claim 3 rejection, modem 60 communicates to modem 42 a signal pulse at a known transmit power spectrum density for one or more sub-frequencies within the frequency spectrum over which the modems 60 and 42 may still connect, such as over a sub-frequency in the voice frequency spectrum, using a first communication protocol.

Regarding claim 7, as recited in claim 1, Milbrandt teaches that in some situations, modems 60 and 42 may not establish a connection over the entire frequency spectrum of a subscriber line 16. In these instances where a modem 60 fails to operate over the entire frequency spectrum supported by a subscriber line 16, central office 14 may enter a modem 60 into a diagnostic mode.

Regarding claim 8, modems 60 and 42 operate over the entire frequency spectrum (e.g. range of sub-frequencies) of a subscriber line 16. As recited in claim 1 rejection, in instances where a modem 60 fails to operate over the entire frequency spectrum supported by a subscriber line 16, central office 14 may enter a modem 60

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into a diagnostic mode. In view of that, modem 60 completes a portion of a modem initialization sequence before entering into a diagnostic mode.

Regarding claims 9-10 and 19-20, modems 60 and 42 are remote modems.

Regarding claim 11, claim is rejected on the same ground as for claim 1 because of similar scope.

Regarding claim 13, claim is rejected on the same ground as for claim 3 because of similar scope.

Regarding claim 14, claim is rejected on the same ground as for claim 4 because of similar scope.

Regarding claim 15, claim is rejected on the same ground as for claim 5 because of similar scope.

Regarding claim 17, claim is rejected on the same ground as for claim 7 because of similar scope.

Regarding claim 18, claim is rejected on the same ground as for claim 8 because of similar scope.

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Regarding claim 21, claim is rejected on the same ground as for claim 1 in view of claims 2-3 because of similar scope.

Regarding claim 22, claim is rejected on the same ground as for claim 4 because of similar scope.

Regarding claim 23, claim is rejected on the same ground as for claim 5 because of similar scope.

Regarding claim 25, claim is rejected on the same ground as for claim 7 because of similar scope.

Regarding claim 26, claim is rejected on the same ground as for claim 8 because of similar scope.

Regarding claim 27, claim is rejected on the same ground as for claim 9 because of similar scope.

Regarding claim 28, claim is rejected on the same ground as for claim 10 because of similar scope.

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Regarding claim 29, claim is rejected on the same ground as for claim 21 because of similar scope.

Regarding claim 30, claim is rejected on the same ground as for claim 4 because of similar scope.

Regarding claim 31, claim is rejected on the same ground as for claim 5 because of similar scope.

Regarding claim 33, claim is rejected on the same ground as for claim 7 because of similar scope.

Regarding claim 34, claim is rejected on the same ground as for claim 8 because of similar scope.

Regarding claim 35, claim is rejected on the same ground as for claim 1 because of similar scope. Furthermore, referring to FIG. 1, in column 7 line 65 via column 8 line 15, the system management server 18 comprises any suitable computing platform 100 operating a system management application 102. Computing platform 100 includes a processor 104 coupled to one or more output devices 106, such as a display or speaker, and one or more input devices 108, such as a keyboard or mouse. Platform 100 also includes a communication interface 110, such as the appropriate hardware

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(e.g., one or more modems, terminal adapters, or network interface cards) and software (e.g., protocol conversion and data processing software) to communicate with modems 60 using interface controller 74. Platform 100 also includes memory 112 that stores application 102 and any associated files, tables, or buffers, in RAM, ROM, CD-ROM, or any other form of magnetic or optical storage.

Regarding claim 36, claim is rejected on the same ground as for claim 21 in view of claim 35 because of similar scope.

Regarding claim 37, claim is rejected on the same ground as for claim 29 in view of claim 35 because of similar scope.

Regarding claim 38, claim is rejected on the same ground as for claim 8 in view of claims 5 and 7 because of similar scope.

Regarding claim 39, claim is rejected on the same ground as for claim 3 because of similar scope.

Regarding claim 41, claim is rejected on the same ground as for claim 38 because of similar scope.

Regarding claim 42, claim is rejected on the same ground as for claim 39 because of similar scope.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2, 6, 12, 16, 24, 32, 40 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Milbrandt U.S. Patent 6,636,603 B1.

Regarding claim 2, Milbrandt does not explicitly disclose a power control device performing functionality as set forth in the application claim.

In column 11 lines 50-65, Milbrandt further teaches that in those instances where modems 60 and 42 fail to establish a connection using a particular communication protocol, such as an xDSL communication protocol, server 18 may initiate the operation of modem 60 using an alternative communication protocol. Because of selection an alternative communication protocol best adapted to provide optimum transmit power spectrum, one of ordinary skill in the art at the time the invention was made would have recognized that Milbrandt teachings perform equivalent function of increasing transmission power. Server 18 corresponds to the claimed power control device.

Regarding claim 6, Milbrandt does not explicitly disclose the accuracy as set forth in the application claim.

However, in column 11 lines 35-55, Milbrandt further discloses that modem 42 at subscriber premises 12 receives the data signal that is communicated by modem 60 and determines subscriber line information 28, such as attenuation information, noise information, received signal power spectrum density or any other information describing the physical or operating characteristics of subscriber line 16 at the one or more sub-frequencies over which the connection between modem 60 and 42 is established. AS common knowledge of one of ordinary skill in the art, because attenuation information and noise information are directly related to bit error rate, therefore, one of ordinary skill in the art at the time the invention was made would have been motivated to modify Milbrandt teachings to include bit error detection for better describing the physical or operating characteristics of subscriber line 16 at the one or more sub-frequencies.

Regarding claim 12, claim is rejected on the same ground as for claim 2 because of similar scope.

Regarding claim 16, claim is rejected on the same ground as for claim 6 because of similar scope.

Regarding claim 24, claim is rejected on the same ground as for claim 6 because of similar scope.

Regarding claim 32, claim is rejected on the same ground as for claim 6 because of similar scope.

Regarding claim 40, claim is rejected on the same ground as for claim 2 because of similar scope.

Regarding claim 43, claim is rejected on the same ground as for claim 2 because of similar scope.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Milbrandt U.S. Patent 6,631,120 B1 discloses "System And Method For Determining A Communication Protocol Of A Communication Device Operating On Digital Subscriber Lines".

Hershey et al. U.S. Patent 6,175,934 B1 discloses " Method And Apparatus For Enhanced Service Quality Through Remote Diagnostics".

Rosbury et al. U.S. Patent 4,385,384 discloses " Modem Diagnostics And Control System".

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 571-272-3007. The examiner can normally be reached on Monday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KCT

A handwritten signature in black ink, appearing to read 'Khanh Tran', with a stylized, cursive script.

Khanh Tran
Primary Examiner